

# **New York State Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) Permit**

## **Best Management Practices Plan Implementation Training**

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# JFK Airport BMPP Implementation Training

- **What is the BMPP Program and Why is it important?**
- **Sources of Pollution**
- **Pollution Prevention Team**
- **Best Management Practices**

# JFK Airport BMPP Implementation Training

## Why is it important to implement Best Management Practices (BMPs)?

- a) Protect the surrounding water bodies
- b) Protect human health
- c) Avoid costly fines
- d) All of the above



# Regulatory Requirements



“Contaminated stormwater discharges from industrial facilities into surface waters are to be minimized or eliminated” -- Clean Water Act



# Regulatory Requirements



- **National Pollutant Discharge Elimination System (NPDES)**
  - The Clean Water Act prohibits anybody from discharging "pollutants" through a "point source" into a "water of the United States" unless they have an NPDES permit.
- **State Pollutant Discharge Elimination System (SPDES)**
  - New York State Department of Environmental Conservation (NYSDEC) SPDES program is designed to eliminate the pollution and to maintain the highest quality of water possible consistent with:
    - *public health*
    - *public enjoyment of the resource*
    - *protection and propagation of fish and wildlife*
    - *Industrial development in the state*

# SPDES Permit Special Conditions

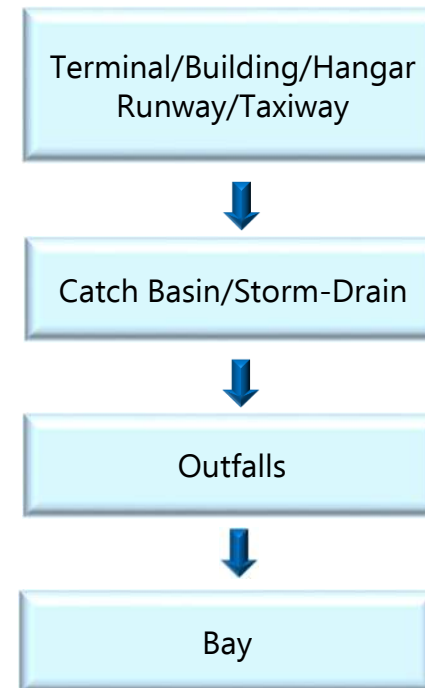
- Develop, maintain, and implement a **Best Management Practices Plan (BMPP)** to prevent significant release of pollutants to waters of the State and eliminate or reduce pollutant loadings in stormwater
- Develop and apply **Best Management Practices (BMPs)** to minimize potential releases
  - 13 Minimum BMPs
  - Activity Specific BMPs



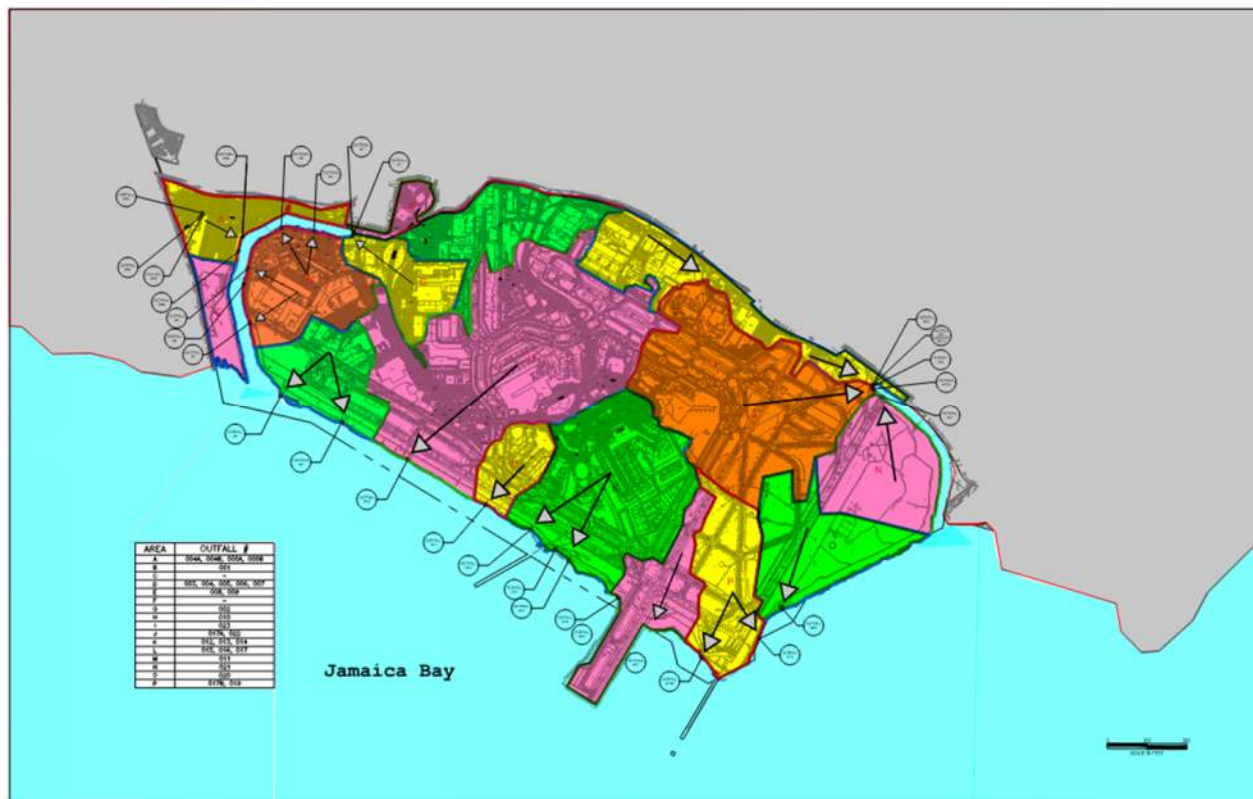
# JFK International Airport Facility

*Identify where activities may be exposed to runoff*

- 4,590 acres
- Terminals (CTA is approx. 880 acres)
- Buildings
- Hangars
- 9 miles of runway
- 25 miles of taxiway
- 16 drainage areas
- 6,000 catch basins
- 26 stormwater outfalls
- Outfalls discharge to Jamaica Bay, Thurston Bay, Head of Bay, and Bergen Basin

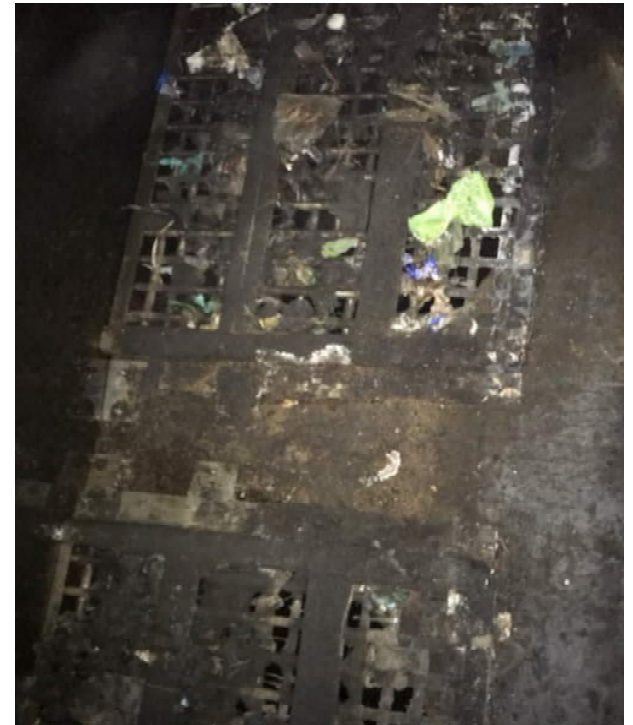


# Outfalls





# Outfalls



# Potential Pollutant Sources

# Potential Pollutant Sources

## Aircraft, Vehicle, and Equipment Maintenance

- Lubricants
- Fuels
- Anti-freeze
- Degreasers

## Aircraft, Vehicle, and Equipment Fueling

- Gasoline, Diesel, Jet Fuel
- Fuel Vapors

## Aircraft Sanitary Service

- Bacteria
- Lavatory flushing chemicals



# Potential Pollutant Sources



- Building and Grounds Maintenance
  - Pesticides
  - Herbicides
  - Oils and Grease
  - Petroleum Hydrocarbons
- Chemical Storage and Fuel Storage
  - Petroleum Hydrocarbons
  - Lubricants
  - Paints
  - Battery Acid
  - Solvents

# Potential Pollutant Sources

- **Food Handling Operations**
  - Oil and grease
  - Bacteria
- **Fire Fighting Foam Testing**
  - PFAS Compounds
- **Aircraft & Pavement**
- **Deicing/Anti-icing**
  - Propylene Glycol
  - Sodium Acetate
  - Potassium Acetate



# Pollution Prevention Team

# Responsible & Accountable Parties

- ***The Port Authority*** is responsible for developing and implementing an airport wide BMPP
- ***Tenants*** are to develop and implement specific BMPs that are applicable to their operation
- ***Tenants*** whom manage multiple “sub-tenants” are responsible for the actions of those sub-tenants
- ***All Sub-Tenants and Facility Staff (e.g., contractors, sub-contractors, and deicing entities)*** are responsible to maintain compliance with the BMPP and report spills and other incidents if they occur no matter whom caused the incident

# Pollution Prevention Team

- **Chris Jones, *Manager of Environmental Services***
  - Tel: 718-244-3546
  - [JFK\\_Evironmental@panynj.gov](mailto:JFK_Evironmental@panynj.gov)
- *The Environmental Maintenance Unit* perform inspections of the facilities maintained by the PANYNJ
- A designee from ***each tenant site*** is on the **Pollution Prevention Team** and is responsible for implementation of the BMPP on tenant property.



# BMPP Inspections

Facility Component and System Inspection	Frequency of Inspections Generated by MMIS	BMP Implemented
Oil Water Separator	Quarterly	10
Hazardous Waste Storage	Monthly	6
Refueling Stations	Quarterly	2, 6, 11, 12
Catch Basins	Bi-Weekly	3, 7, 8, 11, 12, 14, 16
Outfalls	Daily (2)	3, 7, 8, 11, 12, 14, 16
Wastewater Treatment Plants (Monthly Contractor Reports Utilized for Inspection Report)	Monthly	13
Aboveground/Underground Storage Tanks	Monthly	1, 2, 6, 11, 12
Petroleum Bulk Storage (PBS)/ Chemical Bulk Storage (CBS) Tanks	Weekly/Daily	2, 6, 11, 12
Electronic Measurements of Underground Storage Tanks	Weekly – as applicable	1, 2, 6, 11, 12

# New York State Department of Environmental Conservation

- The DEC can conduct random inspections of all JFK facilities
- State Pollutant Discharge Elimination System (SPDES)
- BMPs are guidelines for adhering to the State and National regulations

**\$\$ COSTLY FINES \$\$**

# Best Management Practices

# Preventative Maintenance

- Develop a schedule for routine observations and maintenance for:
  - Structural BMPs (oil/water separator, catch basins, berms)
  - Equipment with potential to leak
- Check performance of equipment & systems
- Prompt repair or contain defective equipment
- *As per 6 NYCRR Part 613.3(d): Maintenance of Spill Prevention Equipment, “The owner or operator must keep all gauges, valves, and other equipment for spill prevention in good working order”*



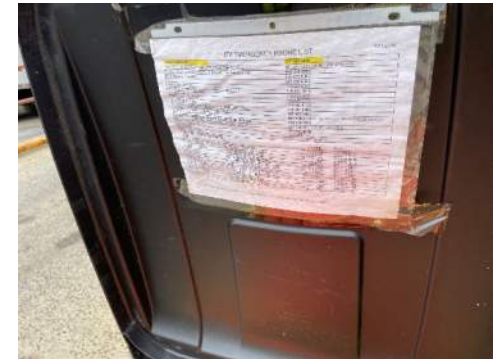
# Good Housekeeping

- Keep equipment and storage areas in clean and orderly manner
- Perform maintenance and repair activities indoors and under cover
- Maintain inventory of material used
- Prevent practice of hosing down the apron or hangar floor
- Collect storm water runoff from the maintenance area and provide treatment or recycling



# Spill Prevention & Response

- **Spill Prevention & Response (SRP) Plan**
  - Names and numbers for emergency contacts, coordinators and clean-up contractors
  - Identify and characterize potential spills
  - Eliminate or reduce spill potential
  - How to respond to different types and size of spills
- Develop and implement Spill Prevention Control & Countermeasure (SPCC) Plan



# Erosion and Sediment Control

- Construction projects of any size should be reviewed before the project begins to determine if adequate soil and erosion control measures will be implemented
- JFK construction projects are covered under the JFK Individual SPDES Permit
- Construction project that involves soil disturbance of one or more acres must follow the SPDES Permit including submitting a NOI and SWPPP



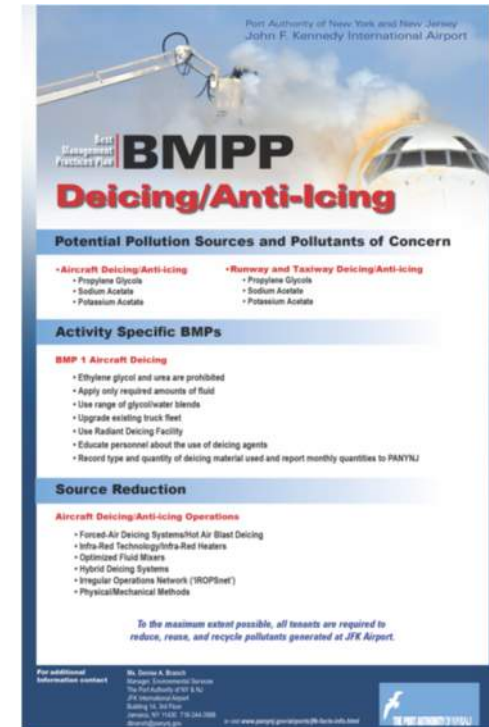
# Activity Specific BMPs

1. Aircraft Deicing/Anti-icing
2. Aircraft, Vehicle, and Equipment Fueling
3. Aircraft, Vehicle, and Equipment Maintenance
4. Aircraft, Vehicle, and Equipment Washing
5. Building Cleaning and Maintenance
6. Chemical and Petroleum Storage and Handling
7. Elimination of Non-Stormwater Discharges to Storm Drains
8. Spills Management
9. Lavatory Service Operations
10. Oil/Water Separators
11. Outdoor Handling of Material
12. Outdoor Material and Equipment Storage
13. Waste Management
14. Fire Fighting Foam Discharge
15. Stormwater Pollution Prevention Education
16. Street Sweeping and Stormwater Facility Management
17. Security
18. Rubber Removal
19. Runway and Taxiway Anti-icing



# Aircraft Deicing/Anti-icing

- **Ethylene glycol and Urea is prohibited**
- **Purpose:** Prevent or reduce the discharge of pollutants to soil, groundwater, and/or storm water from aircraft deicing
- Apply only required amounts of deicing fluid
- Use a range of glycol/water blends
- Upgrade existing truck fleet
- Limit secondary deicing
- Dry weather discharge of material is prohibited
- Recordkeeping: Report glycol releases to appropriate regulatory agencies



# Aircraft, Vehicle, and Equipment Fueling

- **Purpose:** Prevent or reduce the discharge of pollutants to storm water, groundwater, soil and air from aircraft, vehicle, and equipment fueling
- **Restock spill kits**
- Install berms, curbing, or canopies around fueling areas
- Post “**NO TOPPING OFF**” signs
- Use drain blockers at catch basins, or install gate valves at catch basins for use during fueling activity
- Install “breakaway” hose connections
- Designate area for mobile fueling
- Maintain monitoring equipment



# Aircraft, Vehicle, and Equipment Maintenance

- **Purpose:** Prevent or reduce the discharge of pollutants to surface water, groundwater, POTW, soil and air from aircraft, vehicle, and equipment maintenance and repair
- Perform maintenance indoors and under cover
- If maintenance occurs outdoors, perform away from storm water drains
- Consider offsite maintenance by contractors
- Use drip pans
- Drain oil cans/ filters



# Aircraft, Vehicle, and Equipment Maintenance





# Aircraft, Vehicle, and Equipment Washing

- **Purpose:** Prevent or reduce the discharge of pollutants to soil, groundwater, and storm water drains from aircraft, vehicle, and equipment degreasing
- **Cover catch basins in areas where washing occurs**
- **Reclaim/recover 100% wash water and recycle or discharge appropriately**
- Use dry washing techniques in designated areas
- Provide training to employees



# Aircraft, Vehicle, and Equipment Washing



# Building Cleaning and Maintenance

- **Purpose:** Prevent or reduce the discharge of pollutants during building cleaning and maintenance activities
- **Common deficiencies observed:**
  - **Cap or disconnect floor drains in areas where maintenance occurs**
  - **Provide secondary containment for drums**
  - **Clean stained areas and contain/manage spills**
- Perform maintenance activities indoors and under cover
- Properly dispose of blowdown with other oily waste waters
- Properly dispose of landscape waste, wash water, sweepings, and sediments.
- Use dry pavement cleaning methods
- Initiate employee spill prevention and response training









# Chemical and Petroleum Bulk Storage

## Petroleum Bulk Storage (PBS) /Chemical Bulk Storage (CBS) :

“The operator must display a registration certificate which is current and valid on the premises of the facility at all times.”

“the owner or operator must permanently mark all fill ports to identify the product inside the tank. These markings must be consistent with the color and symbol code of the American Petroleum Institute.”

Operators of USTs must keep daily inventory records (and maintain them for five years). They must also test tanks and pipes every five years.

Operators of ASTs must conduct monthly visual inspections and a 10 year inspection.

Tanks that are temporarily out of service (30 days or more) must be drained of product, fill lines and gauge openings must be capped. Inspection and registration must continue.

A.P.I. COLOR CODES	
●	UNLEADED REGULAR
●	UNLEADED MIDGRADE
●	UNLEADED PREMIUM
●	UNLEADED REGULAR W/EXT.
●	UNLEADED MIDGRADE W/EXT.
●	UNLEADED PREM. W/EXT.
●	KEROSENE
●	VAPOR RECOVERY
●	#1 FUEL OIL
●	#2 FUEL OIL
●	DIESEL, LOW SULFUR
●	DIESEL, HIGH SULFUR

# Spills Management



**All of the following need to be done immediately EXCEPT:**

- a) Protect and clean out the catch basin
- b) Report the spill
- c) Clean up debris and contamination
- d) Properly dispose of waste/cleaning materials
- e) Rinse off pavement into catch basin

# Spills Management



**What still needs to happen?**

- a) Power wash pavement while containing wash water for offsite disposal
- b) Properly dispose of waste spill cleaning materials
- c) Restock spill kits
- d) Retrain Employees to prevent this from happening again
- e) All of the above

# Spills Management





# Spills Management

- Develop spill prevention plans to contain accidental and continuous releases of petroleum products and/or hazardous substances
- Identify proper reporting procedures to implement in the event of a spill
- Immediate containment/cleanup of spills
- Maintain Spill Response Kit
  - Fueling Stations/ Areas
  - Material Storage/Handling
  - Maintenance Areas
- Required agency notification
- Properly dispose all absorbent material



# Reporting of Spill Incidents

## Petroleum Spills

Type of Spill	Quantity	Did Spill Enter Storm Drain?	Agency to Notify	Phone Number
Petroleum	Greater than (>) 5 gallons	Yes	NYSDEC NRC USCG PANYNJ	1-800-457-7362 1-800-424-8802 718-354-4120 <i>See Spill Guidance Sheet for all PANYNJ Numbers</i>
Petroleum	Greater than (>) 5 gallons	No	NYSDEC PANYNJ	1-800-457-7362 <i>See Spill Guidance Sheet for all PANYNJ Numbers</i>
Petroleum	Less than (<) 5 gallons	Yes	NYSDEC NRC USCG PANYNJ	1-800-457-7362 1-800-424-8802 718-354-4120 <i>See Spill Guidance Sheet for all PANYNJ Numbers</i>
Petroleum	Less than (<) 5 gallons	No	PANYNJ*	<i>See Spill Guidance Sheet for all PANYNJ Numbers</i>

\* All Spills must be cleaned up within 2 hours of discovery or NYSDEC and NRC must be notified regardless of the quantity of material spilled.

Notify Environmental Services, PANYNJ Police and Operations of **any** spills  
Complete PANYNJ Spill Reporting Form within **one business day**

# Reporting of Spill Incidents

## Hazardous Substance Spills

Type of Spill	Quantity	Did Spill Enter Storm Drain?	Agency to Notify	Phone Number
Hazardous Substance	Greater than (>) Reportable Quantity (RQ)	Yes	NYSDEC NRC USCG PANYNJ	1-800-457-7362 1-800-424-8802 718-354-4120 <i>See Spill Guidance Sheet for all PANYNJ Numbers</i>
Hazardous Substance	Greater than (>) Reportable Quantity (RQ)	No	NYSDEC NRC PANYNJ	1-800-457-7362 1-800-424-8802 <i>See Spill Guidance Sheet for all PANYNJ Numbers</i>
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Notify Environmental Services, PANYNJ Police and Operations of **any** spills

Complete PANYNJ Spill Reporting Form within **one business day**

# Outdoor Handling of Material

- Purpose: Prevent or reduce the discharge of pollutants during loading and unloading of material and cargo
- Conduct loading/unloading under cover
- Transfer materials in paved areas away from storm drains
- Immediately contain and absorb leaks during transfers
- Use drip pans under hoses
- Keep containers closed when not in use.





# Outdoor Handling of Material



# Outdoor Material and Equipment Storage

- Purpose: Prevent or reduce discharge of pollutants from outdoor storage areas for significant material
- **Store on spill pallets, berming or secondary containment**
- Store materials indoors and under cover
- Conduct periodic inspections for spills, leaks, damaged containers/ hoses, and document
- Post Safety Data Sheet (SDS)
- Properly discharge stormwater/ spilled material from secondary collection
- Eliminate excessive oil and grease buildup on equipment



# Waste Management

- **Provide sheltered and designated waste storage and recycling areas**
- Streamline operations to minimize waste generation
- Maintain records of waste generation and disposal
- Obtain appropriate registrations for any hazardous waste generation
- Properly manage Universal Waste
- Drain all fluid from parts and equipment prior to disposal
- Verify proper waste disposal practices for contractors.



# Waste Management

- **Hazardous Waste:**
  - ❖ Oils, antifreeze, some glues/ paints/ strippers/ cleaners;
- **Universal waste:**
  - ❖ Batteries, bulbs, pesticides, mercury – containing equipment;
- **Non Hazardous**



# Street Sweeping and Pavement Cleaning

- **Purpose:** Reduce the amount of solids and floatable materials entering the storm system
- **Establish inspection schedule and regularly clean out catch basins**
- Street sweeping is required on a routine basis in catch basin areas. Aeronautical areas swept once per week
- Clean heavily utilized areas routinely to minimize small spills and leaks from entering storm drain
- Repair eroded sites

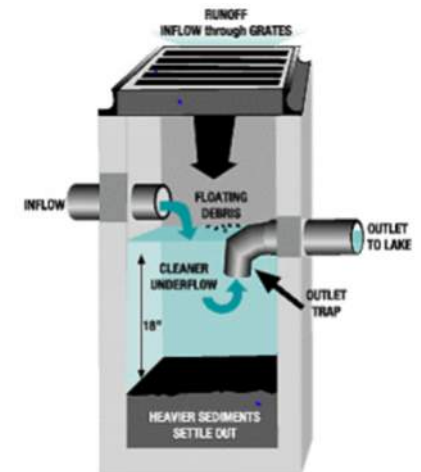
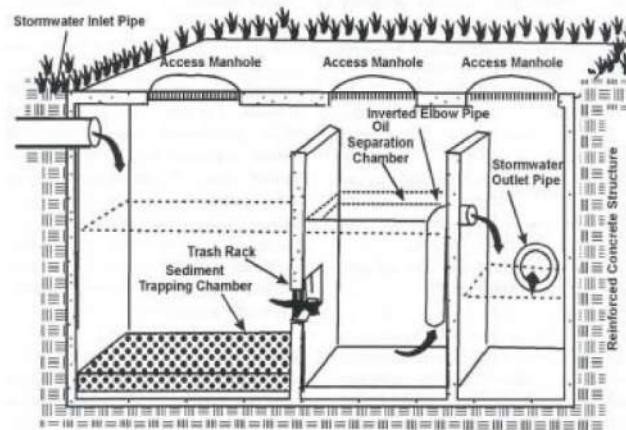
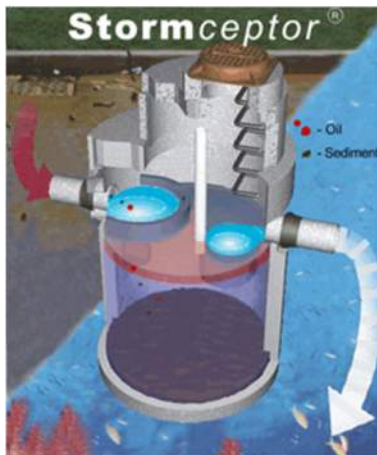




# Stormwater Facility Maintenance

## Oil/Water Separator, Catch Basins, Stormceptors

- Inspect and clean routinely for accumulated oil, grease, floating debris, and sediment
- Perform and document in a log book all inspections and maintenance operations
- Properly dispose of all liquid and solid waste from cleaning activities.



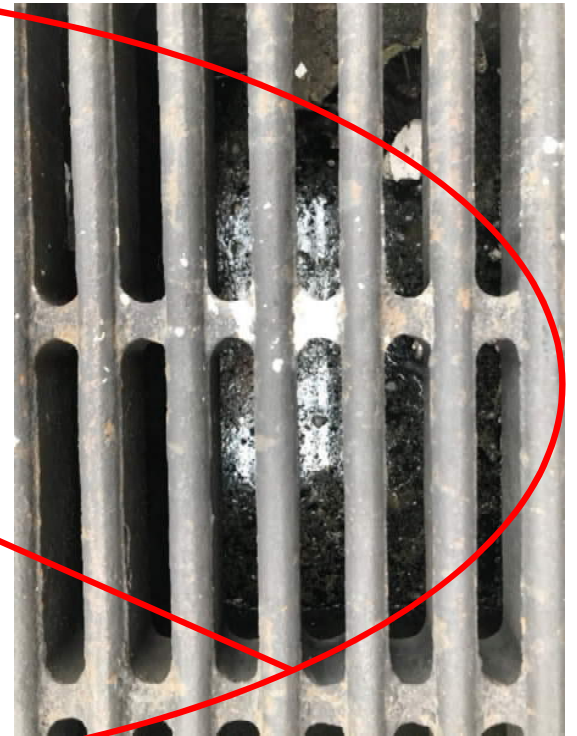
# Catch Basins

- Catch basins are cleaned when deposits are one-third the distance from the basin bottom to the invert of the pipe or opening into out of the basin.
- If woody debris or trash accumulates in a catch basin, **clean the basin on at least a weekly basis.**
- Remove immediately any petroleum material in catch basins (including a sheen).
- Refer to the stormceptors's O&M manual for recommended cleaning frequency.





# Catch Basins



# Activity Specific BMPs

## Rubber Removal

- Perform regular runway/taxiway rubber removal from take-off and landings
- Collect residue during cleaning

## Runway and Taxiway Anti-icing

- Urea and Ethylene Glycol are prohibited for deicing
- Only apply required amounts of fluid and solid material
- Only qualified personnel shall perform anti-icing activities



# PANYNJ Website

**PANYNJ – JFK Airport BMPP Plan and Forms are available at:**

<https://www.panynj.gov/port-authority/en/business-opportunities/aviation-documents.html>

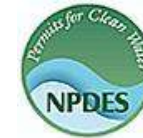
**The following information is available on the PANYNJ Website and Environmental Portal:**

- **JFK Stormwater Best Management Practices Plan**
- **Deicing/Anti-icing Reporting Form**
- **BMPP Implementation Inspection Form**
- **Spill Reporting Form**
- **Environmental Infraction Corrective Action Inspection Form**
- **Pollution Prevention Team Member Designation Form**

# Federal & State Links

- USEPA *Storm Water Management for Industrial Activities*, EPA 832-R-92-006  
[www.nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=20000469L.txt](http://www.nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=20000469L.txt)

- USEPA – Storm Water  
[www.epa.gov/ebtpages/watestormwater.html](http://www.epa.gov/ebtpages/watestormwater.html)



- NYSDEC – Division of Water SPDES Program

[www.dec.ny.gov/permits/6054.html](http://www.dec.ny.gov/permits/6054.html)



# Questions?

[JFK\\_Environmental@panynj.gov](mailto:JFK_Environmental@panynj.gov)

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**PORT  
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NY NJ**

**Thank You!**

**AIR LAND RAIL SEA**